

# **Range Telephone Cooperative - Montana** **5 Year Service Quality Improvement Plan** **2015 Update & Progress Report**

## **Introduction**

Range Telephone Cooperative, Inc. is an ETC serving 2 study areas, one in Montana and one in Wyoming. The Montana study area is 11,972 square miles in eastern Montana served by 12 wire centers with 4,074 current access lines. Range has the following wire centers:

<u>Wire Center</u>	<u>Sq. Miles</u>	<u>Access Lines</u>
Ashland	1,423	582
Alzada	949	75
Birney	337	73
Broadus	320	540
Busby	337	254
Decker	804	171
Hysham	1,324	436
Lame Deer	549	1,123
North Broadus	936	110
Rosebud	1,084	240
South Broadus	1,863	279
South Miles City	1,893	191
Total	11,972	4,074

## **Current USAC Information**

Per the Universal Service Administrative Company (USAC) Range Telephone Cooperative, Montana received a total of \$772,716 in USF support funds year to date 05.31.2015. The breakdown of the funding to time of filing is:

High Cost Loop	\$ 72,426
ICLS	\$ 451,980
CAF ICC	<u>\$ 248,310</u>
	\$ 772,716

These Universal Service Funds (USF) are used to maintain, upgrade and improve the Range Telephone network, and to cover operating expenses and debt commitments as necessary to continue offering affordable voice and broadband services within its authorized serving areas.

USF will continue to be included in Range Telephones current revenue accounts and forward-looking projections. Total Revenues are used for both capital expenditures as well as covering operating expenses and fixed costs incurred in obtaining capital from lenders. Range Telephone

does not segregate USF separately for purposes of capital and operating expenditures. USF is expended in the same proportion as all other revenues.

The proportionate share of USF expenditures year to date 2015 allocated for CAPEX is estimated to be \$231,814 or 30%, and for OPEX is estimated to be \$540,902 or 70%.

(Note: A greater share of USF is spent on CAPEX during the 2<sup>nd</sup> half of a given year when Range's traditional construction season begins in mid-May and ends by November)

This 5 year improvement plan is a section of the Company's 2015 Annual Report. It is in compliance with # 54.313(a)(1) adopted in the FCC USF/ICC Transformation Order (11-161).

Range has developed its improvement plan, concentrating on the delivery and continuation of a robust network which provides, at a minimum, the federally required voice and broadband connectivity as stipulated by regulatory rule.

## **5 Year Service Quality Improvement Plan by Year**

For the next 5 years Range will deploy Broadband Loop Carrier (BLC) equipment to support increased bandwidth to its end users and to collapse its legacy circuit switched voice network into its next generation packet switched voice network. The majority of this Plan entails replacing traditional copper T-carrier facilities with Fiber to The Node (FTTN) infrastructure in support of the new BLC being deployed. In an effort to minimize retained copper loop lengths, additional BLC nodes will be designed for installation either during initial placement of the FTTN facilities or in a subsequent Plan year. Fixed wireless will also be considered where such technology may be more economically feasible to meet the same objective. As this Plan is implemented all subscribers falling within the definition of 'reasonable request' will have access to broadband service at speeds defined by the FCC.

Exchange maps have been included with this filing detailing those geographic areas that will be impacted by each project defined herein.

### **Plan Year 2015**

#### **DECKER EXCHANGE – MONTANA ASH CREEK FIBER TO THE NODE CONSTRUCTION (ASCR)**

The Montana section of the Decker to Ash Creek Fiber Project includes new placement of approximately 2.93 route miles of fiber optic infrastructure. This new infrastructure will replace copper T-Carrier span lines currently used to trunk Digital Loop Carrier (DLC) facilities in this area. Direct buried cable placement method is planned for this project. The Ash Creek Electronic Serving Area Interface (ESAI) is located in Montana and serves a twelve (12) square mile area. It currently does not connect any premises in Montana but serves as the ESAI for fourteen (14) Wyoming connected premises. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015**

**Update:** This project is under construction.

#### **DECKER EXCHANGE – MONTANA TONGUE RIVER DAM FIBER TO THE NODE CONSTRUCTION (TNRD)**

The Tongue River Dam Fiber Project includes new placement of approximately 3 route miles of fiber optic infrastructure. This new infrastructure will replace copper T-Carrier span lines currently used to trunk Digital Loop Carrier (DLC) facilities in this area. Direct buried cable placement method is planned for this project. The Tongue River Dam Electronic Serving Area Interface (ESAI) connects eighteen (18) premises in a seventeen (17) square mile area. Anticipated funding for this project will be provided under a new Rural Utilities Service loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015**

**Update:** Engineering and Right-of-Way acquisition on this project is in progress.



#### **DECKER EXCHANGE – MONTANA:**

##### **CENTRAL OFFICE AND REMOTE BROADBAND LOOP CARRIER UPGRADES (DKRMT)**

This project includes the installation of new Broadband Loop Carrier (BLC) electronics in the Decker, MT Central Office and subtending remote electronics sites to serve Montana connected premises. This project will not only support increased broadband capability within the Decker exchange area but will also allow for the collapse of a legacy DMS-10 circuit switch into the recently placed Metaswitch packet switch in 2015. Current copper plant service delivery to the subscribers will be retained. The Decker Central Office serves sixty nine (69) Montana premises in a seven hundred and ninety nine (799) square mile area. Current broadband speeds average 3Mbps downstream and 512Kbps upstream. The new BLC electronics will support broadband speeds averaging 20Mbps downstream and 5Mbps upstream. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015 Update: This project is in progress.**

##### **DECKER EXCHANGE - MONTANA SPRING CREEK HUT FIRE SUPPRESSION (SPRK)**

The project includes installation of a new fire suppression system at Spring Creek. Special concerns are this is a remote site that is sometimes very hard to get to and a Fire Suppression system is recommended. This site serves thirteen (13) connected premises but also serves as a regeneration/amplification site for middle-mile optical transport systems. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Expected completion of this project is within the 2015 calendar year. **2015 Update: This project is in progress.**

##### **DECKER EXCHANGE – MONTANA KIRBY HUT FIRE SUPPRESSION (KRBY)**

The project includes installation of a new Fire Suppression system at Home Creek Butte. Special concerns are this is a remote site that is sometimes very hard to get to and a Fire Suppression system is recommended. This site serves twenty four (24) connected premises but also serves as a regeneration/amplification site for middle-mile optical transport systems. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Expected completion of this project is within the 2015 calendar year. **2015 Update: This project is in progress.**

##### **~~ALZADA EXCHANGE – MONTANA ALBION FIBER TO THE PREMISE CONSTRUCTION (ALBN)~~**

~~This project includes the new placement of approximately 5 route miles of FTTP access infrastructure and new Broadband Loop Carrier (BLC) electronics which will replace first generation Digital Loop Carrier (DLC) currently in place and trunked with fiber. Current broadband speeds average 3Mbps downstream and 512Kbps upstream. The new FTTP access infrastructure will support broadband speeds averaging 20Mbps downstream and 5Mbps upstream. Direct buried cable placement method is planned for this project. The Albion~~

~~Electronic Serving Area Interface (ESAI) connects nine (9) premises in a twenty one (21) square mile area. Anticipated funding for this project will be provided under a new Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year.~~ **2015 Update: This project has been eliminated due to priority change.**

#### **ALZADA EXCHANGE - MONTANA ALZADA HVAC EQUIPMENT REPLACEMENT (ALZDMT)**

This project includes the replacement of an aging heating and air conditioning system that is at or near life expectancy. This site serves sixty one (61) connected premises in a one thousand and eighty nine (1,089) square mile area. Anticipated funding for this project will be provided from general funds and completion of this project is within the 2015 calendar year. **2015**

**Update: Final design in Progress**

#### **LAME DEER EXCHANGE - MONTANA CENTRAL OFFICE AND REMOTE BROADBAND LOOP CARRIER UPGRADES (LMDRMT)**

This project includes the installation of new Broadband Loop Carrier (BLC) electronics in the Lame Deer, MT Central Office and subtending remote electronics sites. This project will not only support increased broadband capability within the Lame Deer exchange area but will also allow for the collapse of a legacy DMS-10 circuit switch into the recently placed Metaswitch packet switch in 2015. Current copper plant service delivery to the subscribers will be retained. The Lame Deer Central Office serves five hundred and twelve (512) connected premises in a five hundred and forty nine (549) square mile area. Current broadband speeds average 3Mbps downstream and 512Kbps upstream. The new BLC electronics will support broadband speeds averaging 20Mbps downstream and 5Mbps upstream. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015**

**Update: This project is in progress.**

#### **LAME DEER EXCHANGE – MONTANA MUDDY CLUSTER GENERATOR ADDITION (MCLS)**

The project includes installation of a new emergency standby power generator to assure reliable delivery of broadband and voice services in the event of a commercial power failure. The Muddy Cluster site serves eighty three (83) connected premises in a twenty three (23) square mile area. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Expected completion of this project is within the 2015 calendar year. **2015 Update: Engineering in progress.**

#### **ASHLAND EXCHANGE - MONTANA EAST FORK HUT GENERATOR ADDITION (EFOC)**

The project includes installation of a new emergency standby power generator to assure reliable delivery of broadband and voice services in the event of a commercial power failure. This site serves seventeen (17) in a twenty one (21) square mile area. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design.



Expected completion of this project is within the 2015 calendar year. **2015**

**Update:** Final design in progress.

**~~BIRNEY EXCHANGE - MONTANA CENTRAL OFFICE AND REMOTE BROADBAND LOOP CARRIER UPGRADES (BRNYCO)~~**

~~This project includes the installation of new Broadband Loop Carrier (BLC) electronics in the Birney, MT Central Office and subtending remote electronics sites. This project will not only support increased broadband capability within the Birney exchange area but will also allow for the collapse of a legacy DMS-10 circuit switch into the recently placed Metaswitch packet switch in 2016. Current copper plant service delivery to the subscribers will be retained. The Birney Central Office serves forty five (45) connected premises in a three hundred and thirty seven (337) square mile area. Current broadband speeds average 3Mbps downstream and 512Kbps upstream. The new BLC electronics will support broadband speeds averaging 20Mbps downstream and 5Mbps upstream. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015 Update:** This project has been moved out to year 2016 due to priority change.~~

**NORTH BROADUS EXCHANGE - MONTANA CENTRAL OFFICE AND REMOTE BROADBAND LOOP CARRIER UPGRADES (BRDMT)**

This project includes the installation of new Broadband Loop Carrier (BLC) electronics in the North Broadus, MT Central Office and subtending remote electronics sites. This project will not only support increased broadband capability within the North Broadus exchange area but will also allow for the collapse of a legacy DMS-10 circuit switch into the recently placed Metaswitch packet switch in 2016. Current copper plant service delivery to the subscribers will be retained. The North Broadus Central Office serves sixty two (62) connected premises in a nine hundred and thirty six (936) square mile area. Current broadband speeds average 3Mbps downstream and 512Kbps upstream. The new BLC electronics will support broadband speeds averaging 20Mbps downstream and 5Mbps upstream. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015 Update:** This project is in progress.

**HYSHAM EXCHANGE - MONTANA TULLOCK CREEK BUILDING REPLACEMENT (TLCK)**

This project will replace an existing equipment shelter that is beginning to collapse. The equipment shelter houses Digital Loop Carrier (DLC) equipment connecting seventeen (17) premises in a thirteen (13) square mile area. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2015 calendar year. **2015 Update:** This project is in progress.

#### **ASHLAND EXCHANGE - MONTANA HOME CREEK BUTTE OFFICE POWER BOARD AND GENERATOR REPLACEMENT (HCBT)**

This project includes installation of a new Direct Current (DC) Power plant and emergency standby generator to replace an aging system that has reached its life expectancy. Special concerns in this project include keeping reliable Central Office DC and Backup Power to maintain operation of all local transport and access services. This new power system and standby generator will assure reliable delivery of broadband and voice services in the event of a commercial power failure. This site serves several wireless radio communications systems for both private, local government and law enforcement use. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Expected completion of this project is within the 2015 calendar year. **2015 Update: This project is in progress.**

#### **ASHLAND EXCHANGE - MONTANA HOME CREEK BUTTE OFFICE FIRE SUPPRESSION (HCBT)**

The project includes installation of a new Fire Suppression system at Home Creek Butte. Special concerns are this is a remote site that is sometimes very hard to get to and a Fire Suppression system is recommended. This site serves several wireless radio communications systems for both private, local government and law enforcement use. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Expected completion of this project is within the 2015 calendar year. **2015 Update: This project is in progress.**

#### **ALL EXCHANGE AREAS – MONTANA/WYOMING TECHNICIAN SERVICE VEHICLES**

In 2015 Range plans to replace four (4) gasoline engine service trucks. We currently have several high mileage service trucks and will decide on specific unit numbers for replacement as needed in the year. Due to Range Telephone Cooperative's service area being very large the mileage put on each service truck yearly is very high. To ensure the safety of employees as well as ensuring serviceable vehicles, the company must regularly replace service trucks. **2015 Update: Vehicle quotes and purchases in progress.**

### **Plan Year 2016**

#### **ASHLAND EXCHANGE - MONTANA**

##### **NORTH ASHLAND TO SOUTH MILES CITY A-HUT FIBER TO THE NODE CONSTRUCTION (NASH)**

This project includes new placement of approximately 18 route miles of fiber optic infrastructure to connect two Electronic Serving Area Interfaces (ESAI's). Direct buried cable placement method is planned for this project. The North Ashland Electronic Serving Area Interface (ESAI) connects thirteen (13) premises in a twenty two (22) square mile area and the South Miles City A-Hut connects seven (7) premises in a twenty (20) square mile area. The fiber



construction will also provide route diversity between the two exchanges in subsequent plan years. Anticipated funding for this project will be provided under a new Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2016 calendar year.

#### **ASHLAND EXCHANGE - MONTANA FORT HOWE FIBER TO THE NODE CONSTRUCTION (FHOW)**

This project includes new placement of approximately 23.3 route miles of fiber optic infrastructure to connect existing Digital Loop Carrier (DLC) electronics. Direct buried cable placement method is planned for this project. The Fort Howe Electronic Serving Area Interface (ESAI) connects twenty three (23) premises in a twenty four (24) square mile area. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2016 calendar year.

#### **ASHLAND EXCHANGE - MONTANA EAST FORK AND HOME CREEK FIBER TO THE NODE CONSTRUCTION (EFOK)**

This project includes new placement of approximately 23.7 route miles of fiber optic infrastructure to connect the East Fork Electronic Serving Area Interface (ESAI) and a microwave site at Home Creek. This new infrastructure will replace copper T-Carrier span lines currently used to trunk Digital Loop Carrier (DLC) facilities in this area. The East Fork ESAI connects eleven (11) premises in a nineteen (19) square mile area. When complete the new site will support broadband service speeds of 20MB downstream and 5MB upstream. Anticipated funding for this project will be provided under the current Rural Utilities Service (RUS) 518-V loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2016 calendar year.

#### **ASHLAND EXCHANGE - MONTANA DOUBLE E FIBER TO THE NODE CONSTRUCTION (DBEE)**

This project includes new placement of approximately 3 route miles of fiber optic infrastructure to connect the Double E Electronic Serving Area Interface (ESAI) on the Northern Cheyenne Indian Reservation. This new infrastructure will replace copper T-Carrier span lines currently used to trunk Digital Loop Carrier (DLC) facilities in this area. The Double E ESAI connects fifteen (15) premises in an eight (8) square mile area. When complete the new site will support broadband service speeds of 20MB downstream and 5MB upstream. Anticipated funding for this project will be provided under a new Rural Utilities Service (RUS) loan design. Both the engineering and the construction of this project will be assigned to contract service providers. Expected completion of this project is within the 2016 calendar year.

#### **ASHLAND EXCHANGE - MONTANA ASHLAND NORTH FIBER TO THE NODE CONSTRUCTION (ASHN)**

This project includes new placement of approximately 18 route miles of fiber optic infrastructure to connect the North Ashland Electronic Serving Area Interface (ESAI) on the